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AUTHOR Boshier, Roger  
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ABSTRACT

This paper describes Personality and Educational Environment Scales (PEES) and a self-concept theoretical model, used in diagnosing dropout from educational institutions, as utilized in a follow-up study of participation and dropout in adult education classes. A dropout was defined as a person who after being present for session 1 or 2 was absent for the midpoint session and four successive sessions of a continuing course. The PEES form, measuring the student's rating of himself, his lecturer, the other students, and his ideal self, as well as his reasons for giving up the course, was sent to persister and dropout participants of adult education evening courses. A total of 948 PEES were received from persisters and 326 from dropouts. A factor analysis was performed on the data obtained from the PEES, and mean scale ratings were obtained; a matrix of over 13,000 mean scale and discrepancy ratings were produced. The findings of the study show that low discrepancies (or assumed self/other similarities) are associated with persistent behavior, whereas dissimilarity (or high discrepancy) is associated with dropout. (CK)

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## Monographs in adult education

Victoria  
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# An instrument and conceptual model for the prediction and diagnosis of dropout from educational institutions Roger Boshier

February, 1971. No. 1.

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VICTORIA UNIVERSITY OF WELLINGTON  
DEPARTMENT OF UNIVERSITY EXTENSION

AN INSTRUMENT AND CONCEPTUAL MODEL  
FOR THE PREDICTION AND DIAGNOSIS OF  
DROPOUT FROM EDUCATIONAL INSTITUTIONS.

ROGER BOSHER.

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## FOREWORD

This monograph is the third report which has been the fruit of the scientific investigation of adult student behaviour undertaken by Mr. Roger Boshier while he was working as a research assistant in this Department over the period February 1969 – October 1970. The first report that arose from this research project was a study of student motivation which has been accepted for publication by *Adult Education*, a journal of research and theory published in the United States. The second report, which is being published in the *Australian Journal of Adult Education* was a comparative study of the students of the three institutions which cooperated to make the research project possible. These institutions were the Wellington Workers' Educational Association, the Evening Institute of Wellington High School and this Department of the University.

This Department is especially grateful to the officers of these two other institutions for their very effective assistance in the project and to all the teachers and students of the three institutions who cooperated in the administration and completion of the questionnaires. We are also much beholden to the University for its support of the project and for the grant made by the University's Internal Research Committee towards the expenditure on this project, from which Mr. Boshier obtained material for his doctoral thesis.

Members of this Department and of the former university adult education organisation from which it emerged have maintained over many years a continuing professional interest in the study of adult education and have long harboured the ambition to offer courses in adult education as a field of study. We are most appreciative of Mr. Boshier's work which has made a signal contribution to the body of knowledge upon which the study of adult education in New Zealand can be based.

12th February, 1971.

J.C. DAKIN,  
Director of University Extension  
Victoria University of Wellington

## INTRODUCTION \*

Hallenbeck (1965) has described dropout from adult education classes as an 'old story'. Indeed as far back as 1814, Thomas Pole, in the earliest systematic history of adult education, recommended that "conductors of adult classes visit the homes of adults absenting themselves from classes . . . to prevent learners from relaxing their attendance" and in 1851, J.W. Hudson in his *History of Adult Education* also wrote about it.

There is no unanimity about what constitutes a dropout. Some researchers (e.g. Davis, 1963) include "all dropouts", others, cited by Verner and Davis (1964) include only those who dropped-out early in a course, whilst Dickinson and Verner (1967) for reasons not apparent, have recently defined a dropout as a person who "did not attend the final two sessions" (p.25). Nevertheless, the problem is a continuing one. Love's (1949) exhortation, paraphrasing Mark Twain, that "everyone talks about it, but no-one does anything about it" still applies today, more than 20 years later. In New Zealand there are probably more adult education students in one form or another than there are pupils at high (secondary) schools. Annual reports of many adult education institutions show dropout rates in excess of 50 per cent, but to date there has been only one piece of New Zealand research (Boshier, 1969a) on adult education dropout behaviour. Because the dropout problem is international, researchers should build models and instruments that have cross-cultural and inter-institutional applicability. The most salient weakness in dropout research to date has been the apparent reluctance of researchers to proceed on the basis of a sound theoretical model, or even order their data in some systematic theoretical framework. Ulmer and Verner (1963) observe that such research as does exist is "scant and inconclusive, as it has not been approached systematically from a theoretical base that is conducive to the orderly accumulation of substantive facts about the problem" (p.153), whilst the following year Verner and Davis (1964) noted that "too many studies show an astonishing indifference to the accepted canons of social scientific research . . ." (p.158).

The aim of the present paper is to describe PEES (Personality and Educational Environment Scales), the theoretical model which underpins the measure, and to present data to demonstrate its utility in diagnosing dropout from educational institutions.

Earlier studies by the present writer indicate that people drop-out for reasons that are primarily course related or non-course related. In making this distinction between course and non-course related dropouts we are aware that in many cases the primary reason (s) may involve an interaction between course and non-course reasons. Thus a person whose car has broken down could catch the bus to his French class, but having found the lecturer boring, too conservative or not scholarly enough, decides not to go on. The following week he decides that by now he has probably fallen behind the other students and so drops right out. In this kind of case both course and non-course related reasons for dropout are present.

Nevertheless "exit interviews" with course-related dropouts, and content analysis of their written reasons for withdrawal indicate that the two main factors in the educational environment likely to be associated with dropout, apart from the dropout himself, are the lecturer and the other students. It is the degree of 'congruence' or 'balance' between these three elements of the adult education environment which correlate with dropout/persistence behaviour.

In studying dropout from educational institutions that occurs for course-related reasons, what is needed is some way of conceptually ordering the variables that cause a person to be "uncomfortable in a group", "bored", "not interested", or generally at loggerheads with the situation he finds himself in. Cronbach's (1957) notion that "if for each environment there is a best organism, for every organism there is a best environment" (p.679) which has been found useful in studies of interpersonal attraction (Lott & Lott, 1965) has utility in an educational setting where the importance of a match or fit between students and institution has been illustrated (Pervin, 1967). Pace's (1958, 1960, 1963) College and University Scales and Astin's (1965) Environmental Assessment Technique have been developed with this in mind but they ignore the interaction between the student and his educational environment. In both adult education and college

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\* Gratefully acknowledged is the help of Kevin Lawson and Jenny Boshier for coding, Hazel Smith for card punching and David Kinniburgh for computer programming. The author is at present Lecturer in Psychology in the Department of University Extension, University of Auckland, Private Bag, Auckland, New Zealand.

dropout prediction and diagnosis studies, institutional variables (e.g. the quality of the lecture) are mostly treated as constants. But much of the variance in dropout can be accounted for by institutional variables. Even the dropout rate itself is an environmental factor causing dropout. As one writer put it, "the entire college atmosphere, both intellectual and social, is different on a campus where only a minority of the entering students will graduate." (Farnsworth, et al, 1955, cited in Summerskill, 1962, p.648). In the adult education situation students observing the evaporation of their class wonder if what they are learning is worthwhile.

In developing a theoretical model for studies of dropout from educational institutions, the formulations of Heider (1958) and Simons et. al. (1970), Newcomb (1958, 1959) and the other cognitive consistency theorists are relevant, but in this research it is Carl Rogers (1954, 1959) self concept theory that provides the framework within which breakdowns in the adult education student/environment interaction are to be considered.

There are two comprehensive reviews of literature on the self concept, one by Wylie (1961) and the other by Diggory (1966). The writer has assembled a bibliography (Boshier, 1970) of over 500 titles which accord a central role to the self concept. Contemporary contributions to self theory are by the "third force" psychologists led by Maslow (1954, 1968) and Rogers (1951, 1954, 1959, 1961, 1969) and writers such as those assembled under the editorship of Moustakas (1956) in the book entitled *The Self*, or Gordon and Gergen (1968) in *The Self in Social Interaction*. The present writer (Boshier, 1968c) has discussed the antecedents and consequents of self esteem with particular reference to the work of Coopersmith (1967).

According to Rogers, the basic tendency inherent in all organisms is to develop capacities which serve to enhance or maintain the organism. This involves meeting what Maslow (1959) has termed "deficiency needs", but it also involves a development toward autonomy and "away from heteronomy, or control by external forces." (p.196). The self is an expression of this tendency of the organism to behave in a self-enhancing way. The tendency expresses itself, Rogers notes, "in the actualisation of that portion of the experience of the organism which is symbolized in the self. If the self and the total experience of the organism are relatively congruent, then the actualising tendency remains relatively unified." Incongruence between self and experience upsets the tendency toward actualization. Experience is thus a psychological and not a physiological construct. Synonyms used are Snygg and Comb's (1959) "experiential field".

Also of importance is the view that attitude towards oneself influences one's attitudes toward others. The self is an anchorage point influencing perception of and attitudes toward other people. In short, Rogers (1951) says "when an individual accepts (himself) ... then he is necessarily ... more understanding ... and accepting of others as separate individuals." (p.520). Wylie (1961) has reviewed twenty-one explorations of this suggestion and concludes that "on the whole, the evidence supports the hypothesized relation between self acceptance (or high self-regard) and acceptance of others (or high-regard for others)" (p.240). Typical of studies supporting the idea that self-rejecting people are more likely than self-accepting people to reject others are Medinnus and Curtis's (1963) finding that mothers who accept themselves are significantly more inclined to accept their children than mothers who do not accept themselves, the finding (Suinn, 1969) that dissatisfied wives are also dissatisfied with their husband and children, Sears, Macoby and Levin's (1957) finding that acceptance of self in women was significantly correlated with acceptance of husband, pregnancy and infant children, and Suinn's (1969) investigation of attitudes towards self and one's parents, wherein significant positive correlations between self-acceptance and father-acceptance were reported. It was also hypothesized in Suinn's study that self-father similarities would correlate with self-acceptance and father acceptance discrepancies, which was confirmed. Additional support along these lines is derived from Helper's (1955) findings on intra-family relationships.

Such self/other rejecting behaviour could be labelled as "scape-goating" or "projection" and has been described by Suinn as "stimulus-generalisation".

From this argument it follows that self-rejecting people, as well as being less tolerant of others than are self-accepting people, are less tolerant of things and events generally. This principle is exemplified by Braun and Link's (1967) finding that negative feelings towards oneself influence variables such as food preference, and Boshier's (1968a, 1968b) finding that persons low in self esteem dislike even their own names. Also of relevance is the present writer's (Boshier, 1969b) linking of low self esteem with the holding of conservative

attitudes, the finding that self-rejecting respondents are more dissatisfied with their home towns that were self-accepting respondents; and Jackson and Getzel's (1959) suggestion, cited by Braun and Link, that even "... dissatisfaction with school appears to be part of a large picture of psychological discontent rather than a direct reflection of inefficient functioning in the classroom. It is almost as if dissatisfaction were a product of a pervasive perceptual set that colours the student's view of himself and the world." (p.25).

Also central to this research is the notion of discrepancies. Self/behaviour and self/ideal-self discrepancies are an integral part of Rogers' (1959) formulation but in the present context self/other incongruence (which is usually accompanied by anxiety and has considerable potential for creating psychological disorganization), is the most critical.

Phenomenologically, incongruence is a state of uneasiness or tension. When experience is obviously discrepant from the self-concept, a defensive response to threat becomes increasingly difficult. Anxiety is the response of the organism to the "subception that such discrepancy may enter awareness, thus forcing a change in the self-concept." (p.204). Similarly, *psychological maladjustment* can be said to exist "when the organism denies to awareness, or distorts in awareness, significant experiences, which consequently are not accurately symbolised and organised into the gestalt of the self-structure," (p.204). This creates an incongruence between self and experience.

When an individual is in no way threatened, he is open to experience, which is the opposite of defensiveness. The term may be used in regard to some area of experience or the total experience of the organism. It signifies that every stimulus, whether originating within the organism or in the environment, is freely relayed through the nervous system without being distorted or channelled off by any defensive mechanism. In this state there would be no possibility of threat. Optimal psychological adjustment is synonymous with self/experience congruence. For the sake of brevity the components of the "fully functioning person", (Rogers, 1959) have not been defined here, but synonyms are Goldstein's (1939) and Maslow's (1954) "self actualized" person, and Riesman's (1950) autonomous person. Whilst "full functioning" refers to all of an individual's experience it may also be achieved for some specific aspect of his experience, such as an experience in a particular relationship, say between himself and his teacher, at a particular time.

It is suggested that 'congruency' behaviour, when considered along with the pervasive nature of self/other rejection, can provide useful before and after-the-fact information about why people drop out of adult education classes. Specifically it is suggested that dropout, particularly dropout for course-related reasons, is a function of the magnitude of the discrepancy between the student's rating of himself, his lecturer, the other students, and his ideal-self.

## MEASUREMENT

Self/other discrepancies and feelings of like or dislike toward an object or person can ordinarily be defined in terms of verbal responses from which sign and strength are inferred. According to Newcomb (1959) any standard sociometric or attitude measurement procedure [such as the Semantic Differential which has been cited by Hunt (1965) as an "important method of assessing the interaction between people and situations" (p.83)] can be used. After considering the plethora of so-called reasons for dropout that 'follow-up' studies reveal and the difficulty of reliably coding these into categories that can be replicated with samples in different institutions, programmes, course-types, countries etc., a modified Semantic Differential scale with cross-cultural and inter-institutional generality was developed for the purposes of this study.

In brief, the Semantic Differential is a technique for specifying differences between concepts (which in this study are people who form significant parts of the adult education environment) in terms of their meaning. When considering the "meaning" of a person we are concerned with both the judged denotative meaning and connotative meaning of characteristics. Early work on the Semantic Differential was reported by Osgood, Suci, and Tannenbaum (1957) and recent investigations have been reviewed by Warr and Knappier (1968) and Heise (1969). There have been over 1000 published works dealing with the S.D. It will therefore not be necessary to discuss at any length the nature of the S.D. as a measuring instrument, but there are several alterations made in *Personality and Educational Environment Scales (PEES)* - modified

S.D. scales), which need explanation

The first is concerned with scale size. Most research workers follow Osgood's example and provide a seven step scale. In investigations with children (e.g. Walkey and Boshier, 1969a, 1969b) a five step scale was used, but in research with intelligent adult samples, Warr and Knapper (1968) suggest that the optimum number of divisions is nine. With university samples of above average intelligence an eleven step scale can be used, particularly if discrepancy scoring techniques are to be employed. Eleven step scales as used here are reliable, as we shall show.

The second alteration concerns scale scoring. Raw data obtained with S.D. consists of checks to which numerical values are assigned, so that analysis of single responses on each scale on each subject is possible. If two concepts are close together in semantic space, they are assumed to be alike in meaning for the individual or group making the judgements. Distance is therefore the relation studied usually by the use of the D statistic (the usual product moment correlation is not considered suitable because it is a profile statistic and does not take absolute difference into account.) There are however several arguments against the use of the D statistic when assessing the differences in S.D. profiles. An alternative procedure, and that adopted here, is to test the significance of differences between sets of responses to each scale without summing across so-called factors which make up the profile. Warr and Knapper have observed that "It is more laborious but it is a rigorous procedure and one which is more likely to lead to a more meaningful interpretation of a set of results." (p.60)

In most studies factor scoring involves deriving only two or three values from several scales. The factors quoted (usually labelled *evaluative*, *activity* and *potency*) are often ad hoc constructs of little importance, and are usually derived not from factor analysis of the data being considered but from Osgood's factor analyses reported in the *Measurement of Meaning*. Comparisons between investigations are made difficult because of scales like "sharp" which may load on a potency factor in one study (for example, in response to the concept KNIFE) but load on an evaluative factor in another study (for example, in response to the concept PICKPOCKET). Criteria for the selection of factor scores also varies as do the various mathematical models utilised in factor analysis and rotation.

The desirability of using scale scoring in preference to factor scoring is also indicated by scale/concept interaction. There is evidence to indicate that a similar factor structure emerges in S.D. responses to single concepts, but the factor loading, and therefore the meaning, of scales, varies between concepts. This can arise when a scale has different degrees of relevance for different concepts employed in a study\*, and can be due to artifacts arising because of correlations between what Kalinerman (1963) calls the "true scores" (mean rating in a given population of subjects) of concepts and individual's rating errors. Scale/concept interaction effects are only disruptive when a factor scoring procedure is followed and will be less marked when a restricted class of concepts (such as those utilised herein) is employed, particularly when what is required is the rating of "person" concepts (e.g. OTHER ADULT EDUCATION STUDENTS, MY LECTURER). Noting that there is little scale/concept interaction when "person" concepts are being rated, Warr and Knapper (1968) suggest that "Osgood's gloomy conclusions from a more variegated set of concepts need not apply to studies of person perception" (p.71). Nevertheless, because a discrepancy scoring technique to test the utility of the self/other theoretical notions detailed earlier is employed herein, all scale ratings were treated separately.

S.D. scales must be relevant to the concept(s) to be rated†, factorially meaningful and reliable. In the present study letters from University Extension dropouts describing their reasons for having left the course were content analysed. The most frequently occurring adjectives used to describe "students", the

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\* Thus sharp-blunt may be more relevant when rating the concept KNIFE than when rating the concept QUEEN ELIZABETH.

† Bannister & Mair (1968) note that "one of the present authors has for years, in papers and lectures used the attempt to designate false teeth as either *religious* or *atheist* as an example of possible difficulties over range of convenience" (p.129). Some S.D. researchers can undoubtedly be criticised for asking respondents to rate concepts with non-relevant scales, usually because these scales have had high loadings on the EPA factors in someone else's study. But if these researchers, Bannister and Mair included, had followed Osgood's advice in the *Measurement of Meaning*, they would develop their own factorially meaningful and relevant scales.

"lecturer" and other favourable and unfavourable elements of the adult education environment were assembled into 41 adjectival pairs. Since adjective pairs in S.D. research should be bipolar in the sense of being opposite points in S.D. space the pairs chosen were, as far as possible, true linguistic contrasts. Those that did not seem to have any antonyms and could not fulfil the bipolarity criteria of S.D. scales were eliminated.

Reliability studies, such as the two year test/retest reported by Walkey and Boshier (1969a) and those reviewed by Heise (1969) indicate that there is a gain in test/retest correlations when factor scores rather than individual scale ratings are used. Since scale ratings are used in the present study, it was considered necessary to select from the initial 41 adjectival pairs only those which were reliable across the four concepts used in the study, because differences in scale reliability as a function of concept/scale relevance was expected.

Two types of reliability are usually adopted in S.D. studies. The first is concerned with *mean* responses to each scale (for each concept), the second with individual responses to each scale. The first procedure yields stability co-efficients which are usually high (since scales are summed across factors). The second, more conservative procedure, and that followed here, is described by Warr and Knappe (1968) as giving "more detailed information about the instrument and is likely to be more useful than the global measure." (p.76)

Reliability data for 41 scales considered without regard to factorial meaning, and two concepts (later used in the final form) are presented in Appendix 1.

Subjects for the reliability study were 54 "Personality Studies" university extension students. Since subjects were enrolled in a class with "other adult education students" it is to be expected that their opinions of them might change over the six week test/retest period. Nevertheless even with an eleven step scale our correlation co-efficients are acceptable. Whilst correlation co-efficients for scales between concepts differ as a function of scale/concept relevance (e.g. authoritarian/democratic has an  $r = .843$  when MYSELF was being rated, but an  $r = .379$  when OTHER ADULT EDUCATION STUDENTS was rated) 27 of the 41 scales were sufficiently reliable (i.e. had a critical value of at least  $p < .05$  level) on both concepts to be eligible for inclusion in the final PEES form. Final eligibility was determined by the factor structure of PEES scales.

To ensure that final PEES scales would be a sample of the total universe of descriptive adjectives used by dropouts to describe their lecturer etc., the 41 test PEES scales were factor analysed and rotated to oblique structure according to the criteria of Hendrickson & White (1964). Rotation was chosen because of the danger in accepting a configuration of numbers obtained in an unrotated factor matrix. Without rotation loadings can easily emerge as a function of the method used to extract latent roots and vectors of the correlation matrix, and may have little empirical meaning as has been noted elsewhere. (Boshier, 1971a, Cooley & Lohnes, 1962).

The rotation yielded 12 factors, accounting for 78.7 per cent of the variance. The factoring procedure along with the reliability check outlined earlier enabled us to compile 15 reliable and factorially representative and meaningful S.D. scales. The final 15 scales are presented below. For illustrative purposes one page of the PEES test booklet, that containing the concept MY ADULT EDUCATION LECTURER is included as Fig 1.

Fig. 1 Sample PEES scale and concept (size reduced)

## MY ADULT EDUCATION LECTURER

By adult education lecturer we mean the person who taught your class at University Extension. If you were in more than one class keep in mind the lecturer who took the class you are in. We are interested in how you view the lecturer who took your class. Be frank.

stimulating	1	2	3	4	5	6	7	8	9	10	11	boring
sympathetic	1	2	3	4	5	6	7	8	9	10	11	unsympathetic
strong	1	2	3	4	5	6	7	8	9	10	11	weak
conventional	1	2	3	4	5	6	7	8	9	10	11	eccentric
rational	1	2	3	4	5	6	7	8	9	10	11	irrational
unfriendly	1	2	3	4	5	6	7	8	9	10	11	friendly
active	1	2	3	4	5	6	7	8	9	10	11	passive
optimistic	1	2	3	4	5	6	7	8	9	10	11	pessimistic
scholarly	1	2	3	4	5	6	7	8	9	10	11	non-scholarly
warm	1	2	3	4	5	6	7	8	9	10	11	cold
organised	1	2	3	4	5	6	7	8	9	10	11	disorganised
lively	1	2	3	4	5	6	7	8	9	10	11	dull
conservative	1	2	3	4	5	6	7	8	9	10	11	liberal
sociable	1	2	3	4	5	6	7	8	9	10	11	unsociable
conformist	1	2	3	4	5	6	7	8	9	10	11	non-conformist

To illustrate the utility of PEES and its potential as an international 'appropriate for the study of dropout from educational institutions, a large scale adult education and follow-up' study is described below.

## PROCEDURE

As part of a larger study on participation and dropout in adult education classes, 2436 participants completed a questionnaire which elicited social and demographic data. 270 selected at random completed the Rotter Internal/External control of reinforcement scale and an *Education Participation Scale* (Boshier, 1971b) and 260 completed a measure of conservatism and some S.D. scales. All of the above were administered at the start of courses organised by the Wellington High School Evening Institute, the Department of University Extension and the Workers' Educational Association (W.E.A.). High School Evening Institute classes were generally of 32 sessions, Extension 24 sessions and W.E.A. 10 sessions. All of these classes are of a liberal and non-credit nature. This and subsequent procedures are shown schematically in Fig. 2.

A dropout was defined as a person who after being present for session 1 or 2 was absent for the mid-point session and four successive sessions of a continuing course. Thus, a person enrolled in a 24 session university extension Spanish class absent from session (lecture) 12, which was the mid-point, and session 13, 14, 15 and 16, was a dropout. A search of rolls from previous years conducted for an earlier study (Boshier, 1962a) revealed that a person absent at the times described above rarely returns for the latter part of the course.

As courses passed the dropout criterion rolls were examined and the names and addresses of persisters and dropout participants noted. PEES forms composed of the concept described above (Figure 1) plus the concepts OTHER ADULT EDUCATION STUDENTS (and a descriptive label), MYSELF, and MYSELF-AS-I-WOULD-LIKE-TO-BE, and accompanying scales, which were the same for each concept, were mailed to persister and dropout participants who were in, or had been in, high dropout (incongruent) and low dropout (congruent) classes. The PEES dropout form was identical to the PEES persister form except that in the descriptive labels that accompanied each concept there were slight differences in wording. Thus dropouts, in rating OTHER ADULT EDUCATION STUDENTS were told that "by students we mean people you met when you went to the class you gave up. (italics added) and the informal contacts there," whereas persisters were told that "by students we mean the people you met when you went to your class, and the informal contacts there."

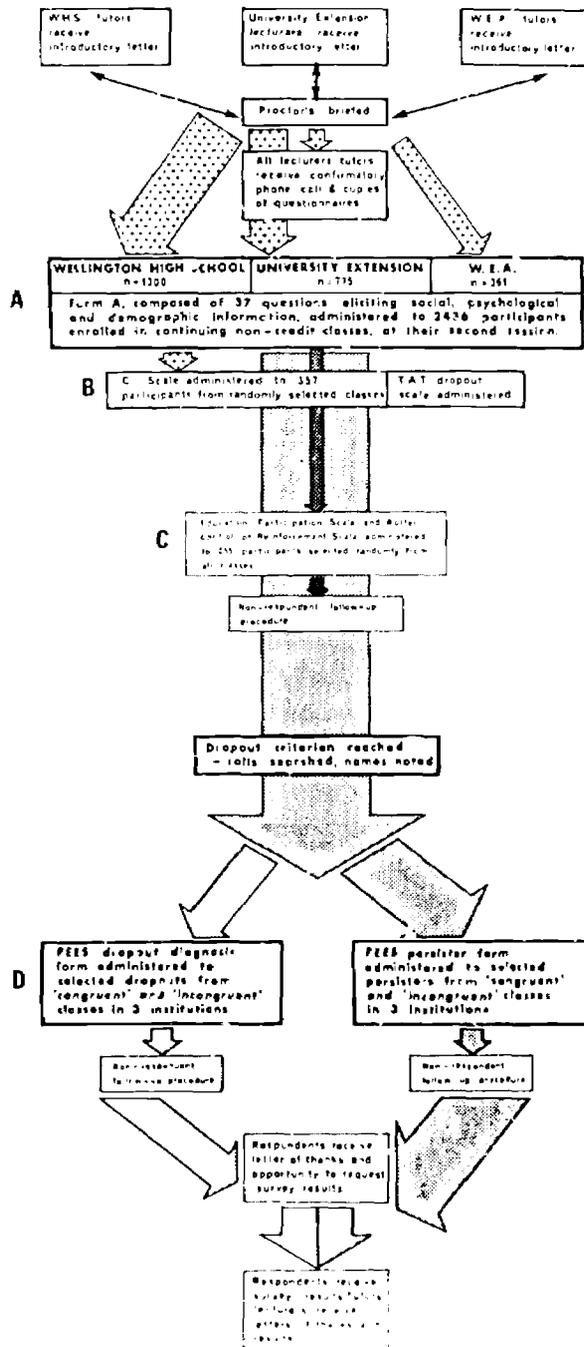
The PEES dropout form also contained a backing page headed REASONS FOR GIVING UP COURSE where dropouts were invited "to write your main reasons for giving up your course. Write your main reason in the top half of this page, and any other reasons on the bottom half of the page. Please be frank. We want to know why you gave up the course."

Before analysis of results began, PEES backing pages were examined. Dropouts were divided into non-course dropouts, defined as those who did not mention dissatisfaction with any aspect of the course, the lecturer, the other students etc., and course-dropouts who mentioned one or more dissatisfactions with the course. Previous follow-up studies (e.g. Zahn, 1964) have shown that dropouts are inclined to dwell on one incident that was the last in a series of dissatisfactions, and are defensive in telling the truth (since the term dropout could imply a stigma). One's self concept can accommodate a non-course-related reason for dropout more easily than a course reason (such as the fact that the participant just would not learn.) Thus for present purposes a person who mentioned only course dissatisfaction, even if it was embedded among a string of non-course reasons (e.g. car broken down, wet weather, wife pregnant, sent to prison etc.), was coded as being a course-related dropout. Subsequent analysis verified the correctness of this procedure. The main comparisons are thus between persisters, all dropouts, and course-dropouts.

In a covering letter mailed with PEES, respondents were told that "a questionnaire, identical with the one enclosed, is being administered to those who gave up and those who did not give up classes. We want to establish differences in the way persisters and persons who gave up courses rate the other students, their lecturer and so on. To achieve this, could we ask you to complete and return the enclosed questionnaire in

RESEARCH PROCEDURES FOR A STUDY OF ADULT EDUCATION PARTICIPATION & DROPOUT

Fig. 2



the envelope provided. It would help future planning for adult education if you would. We want you to be very frank in your answers. You need not put your name on the questionnaire and there are no right or wrong answers. Obviously, this kind of project can be accomplished only by mail, and in return for your co-operation in this part of the project I can offer you an account of the whole research when the results are known. Information gained from this survey is confidential. No names will be used in any published report of the study, so frankness which is what we want, will be protected. If you have any questions please telephone me at the university. We will be pleased to hear from you. I hope you will help."

A stamped/addressed envelope for the return of PEES was sent to each dropout and persister participant and telephone enquiry procedures were developed. Covering letters were machine printed on university letter-head paper. The telephone number was clearly indicated.

Financially and psychologically it would have been more economical to administer the PEES persister form in class. Two considerations caused the writer to decide against this procedure. All students had already completed one questionnaire during class time; many had completed two questionnaires and over 300 participants had completed four questionnaires by the time the dropout criterion was reached. Coupled with the need to retain respondent co-operation was the desire to avoid any error that could result from varying the method of questionnaire administration between the dropout and persister groups. Thus the more arduous process of administration to both groups by mail was adopted.

In most cases PEES was mailed to dropout and persister participants in the selected classes within two or three weeks of the dropout criterion having been reached. Non-respondents received two subsequent letters, one from the writer and another from the Director of the Department of University Extension. Five weeks after PEES had been mailed non-respondents were telephoned by the writer or one of his assistants.

This follow-up procedure, which was followed rigorously, yielded 948 PEES from persisters, and 326 from dropouts. The characteristics of non-respondent dropouts and persisters were compared (chi-squared analysis) with the wider participant population and it was found that non-respondents did not differ significantly. Details of this analysis are available elsewhere<sup>3</sup> but it can be noted here that as all respondents had completed questionnaires at the time courses began we were able to avoid the most serious pitfall of 'follow-up' researchers -- the impossibility of ascertaining the characteristics of non-respondents. As respondents returned PEES they were sent a letter of acknowledgement. At the foot of this letter was a 'tear off' slip which, if returned to the writer, caused a copy of simplified 'survey results' to be dispatched to the respondent. All letters, PEES forms and ancillary material were machine printed and bore the university insignia.

## RESULTS

PEES can identify fractures in the student/education environment interaction associated with dropout, make inter-institutional comparisons between the way students rate their lecturer, themselves and the other students, and intra-institutional comparisons between the way students in different parts of an institution rate their lecturer etc. More detailed information about why people dropout can be derived as it is here if additional identifier codes, such as age, sex etc., are used. Data from a factor analysis of PEES (separated by concept) are also presented.

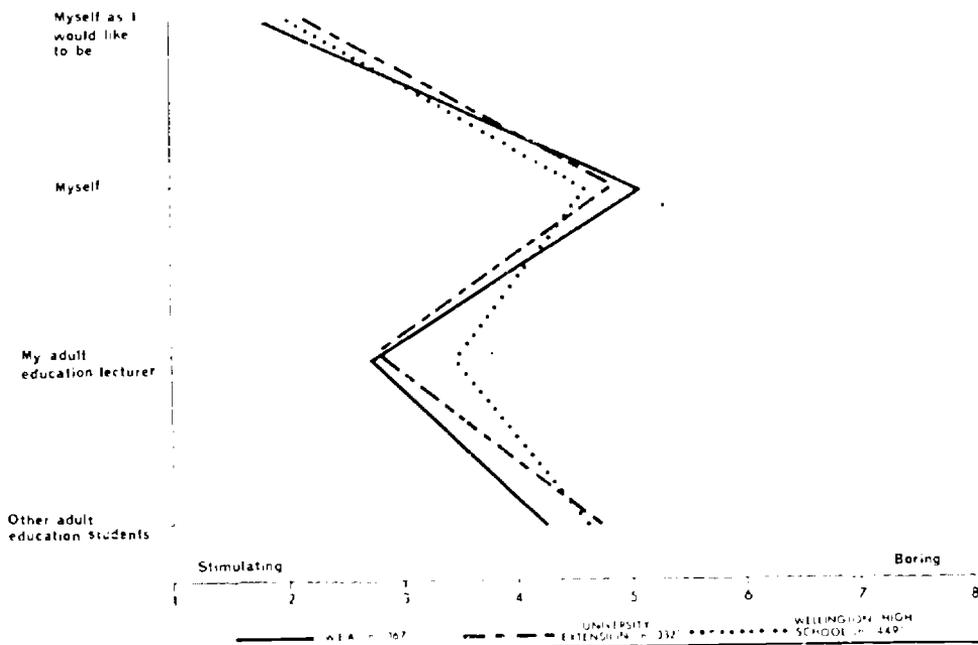
In the present study, mean ratings for each of the 15 scales on the 4 concepts were computed for all persisters, all dropouts, and all course-dropouts, men persisters, men dropouts and men course dropouts, women persisters, women dropouts and women course-dropouts, High School, W.F.A., and Extension persisters, dropouts and course-dropouts.

Calculated next were mean scale ratings of the 4 concepts for women and then men persisters, dropouts, and course-dropouts. Mean ratings by persister, dropout and course-dropout participants in each of the class categories (language, art, social science, woodwork, pottery etc.) for each of the institutions were also calculated.

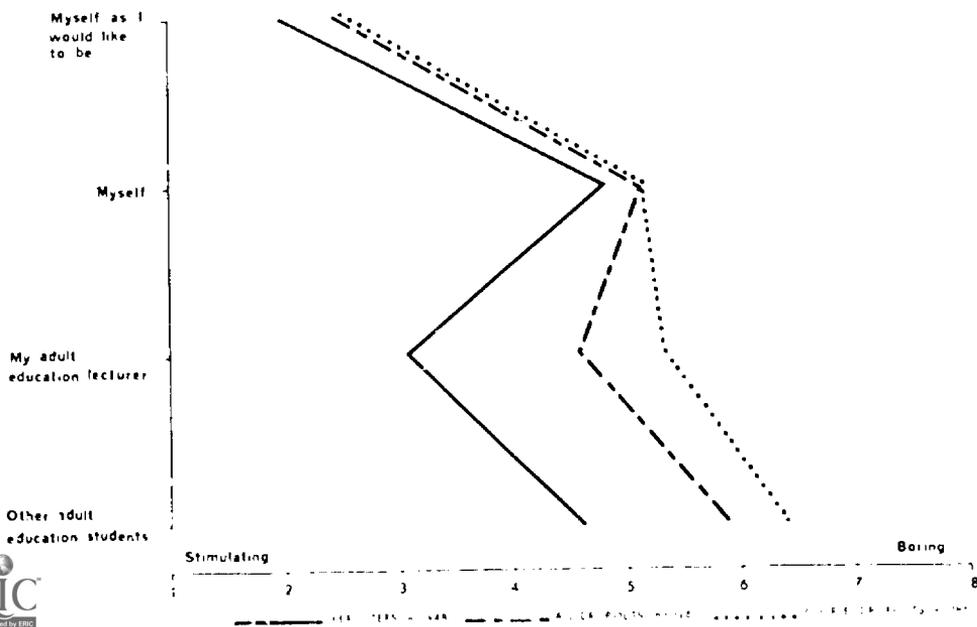
Obtained next were mean scale ratings of each concept for persister/dropout/course dropout respondents in each subject in each institution. We are thus able to compare how "stimulating" or "boring" persisters in say a High School pottery class considered their "lecturer" or the "other students" to be, as compared to how "stimulating" the woodwork, language, social science, or art persister/dropout students

3. From the writer.

**Fig. 3 CONCEPT MEANS ON ONE PEES SCALE FOR PERSISTER PARTICIPANTS IN THREE ADULT EDUCATION INSTITUTIONS**



**Fig. 4 CONCEPT MEANS ON ONE PEES SCALE FOR DROPOUT, COURSE DROPOUT, AND PERSISTER ADULT EDUCATION PARTICIPANTS IN THREE INSTITUTIONS**



found their lecturer. Data illustrating some of the uses of PEES are detailed below. In the present research a matrix of over 13,000 mean scale and discrepancy ratings were produced but these can be varied to suit the user's requirements.

#### (A) Inter-institutional analysis

A comparison of mean ratings on one scale for one concept for each institution indicates how respondents rate "myself" and aspects of their adult education environment. An example of such a comparison is given in Fig. 3 where mean ratings on the scale "stimulating . . . boring" of the four concepts utilised are presented. The subjects in this instance are all persisters. A number of conclusions can be drawn from this graph. W.E.A. persisters considered "myself" to be more "boring" than "other adult education students". Persisters in all institutions considered "myself" to be significantly more boring than they would like to be and "myself" more "boring" than "my adult education lecturer". Inter-institutional differences are not great but there are significant differences with respect to the persisters rating of their "lecturer" and the "other students". W.E.A. and University Extension persisters, who rated their lecturer 2.86 and 2.77 respectively on the "stimulating . . . boring" scale, considered their lecturer to be more stimulating than did the High School Evening Institute students who rated their lecturers 3.47 on this scale. Slight inter-institutional differences occur with respect to mean scale ratings on three of the concepts. Noteworthy here is that persisters largely rate themselves (on the "stimulating . . . boring" scale at least) as they rate the other students.

Fig 4 and 5 illustrate that on "stimulating . . . boring" ratings, most of the difference between dropouts, course dropouts and persisters, occurs with regard to aspects of the adult education environment external to the participant. These three groups rate "myself" and "myself as I would like to be" almost identically but there is considerable variability across the three groups in their rating of the other two concepts. Persisters rated their lecturer 3.12, the dropouts 4.60 and the course-related dropouts 5.35 on the "stimulating . . . boring" scale. PEES ratings of "myself" if they can be taken as indices of self-esteem, do not significantly distinguish dropout and course-dropouts on this scale. There is almost perfect congruence between the way persisters rate themselves and the other students in their class, but a considerable incongruence between dropouts and course-dropouts ratings of "myself" and "other adult education students". Large discrepancies suggest that there is strain in the functioning of the system. In each of the three groups, considerable self/ideal-self discrepancies exist, which on the "stimulating . . . boring" scale are only marginally related to dropout.

A more detailed analysis is presented in Fig. 4, where mean ratings on the scale "stimulating . . . boring" for 128 University Extension language class persisters, 66 dropouts and 38 Extension language class course-dropouts are graphed. Extension language class persisters considered their "lecturer" to be slightly more stimulating and the "other students" more boring than the 948 persisters in Fig. 3. Again, there is almost no difference in the persister/dropout/course-dropout self and ideal-self ratings.

Whilst Figures 4 and 5 present only concept ratings on the "stimulating . . . boring" scale, these data are typical of the ratings made by persister/dropout/course-dropout participants on the other fourteen scales. This strongly supports the interactional psychology notions described earlier, and suggests that researchers who try and account for dropout from educational institutions in terms of just personality factors or social characteristics should do so in cognizance of the fact that most of the variance is located elsewhere. Data such as the above also strongly suggest that institutional/environmental variables associated with dropout/persistence behaviour can be identified and manipulated in the classical experimental sense.

#### (B) Intra-institutional comparisons

By separating the mean scale ratings of each concept made by participants enrolled in each class or class type within one institution, it is possible, for example, to identify which lecturers were viewed with the greatest favour or disfavour, or the subjects in which persons of low and high self esteem are enrolled. Table 1, which presents data on only five of the fifteen PEES scales for one concept, "my adult education lecturer", shows that among persister, dropout and course-dropout students enrolled in University Extension classes, there is considerable variability in ratings of "my adult education lecturer".

**Fig. 5 CONCEPT MEANS ON ONE PSES SCALE FOR DROPOUT, COURSE DROPOUT, AND PERSISTERS UNIVERSITY EXTENSION LANGUAGE STUDENTS**

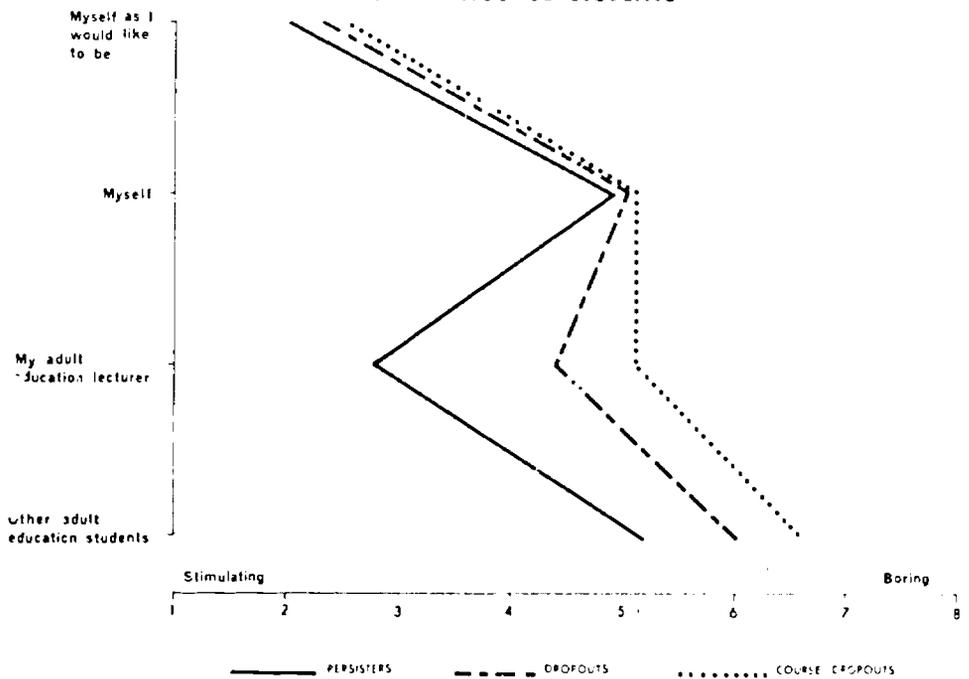


Table 1 University Extension Participants' Mean Rating of the Concept  
'My Adult Education Lecturer' on Five PEES scales.

	STIMULATING ..... BORING		ACTIVE..... PASSIVE		WARM..... COLD		ORGANISED..... DISORGANISED		CONSERVATIVE ..... LIBERAL				
	P	CD	P	CD	P	CD	P	CD	P	CD			
Classics	3.54	3.69	2.69	4.00	4.00	2.69	3.25	2.58	2.92	4.25	6.69	4.54	5.25
Economics	2.90	6.00	2.20	3.67	3.20	5.00	4.25	3.50	3.33	5.00	6.30	5.67	5.75
Music	2.00	4.57	1.95	1.29	2.65	2.57	2.80	1.80	2.71	3.40	7.00	6.57	5.04
Science	3.23	5.20	2.73	3.60	2.93	4.00	6.00	3.43	4.60	5.00	5.77	4.20	4.00
Social Sciences	2.20	3.18	2.20	2.82	2.10	2.81	3.75	3.42	4.73	6.25	7.97	8.00	9.00
Languages	2.83	4.38	2.63	3.61	2.82	3.62	4.03	3.59	4.36	4.63	7.08	6.33	6.34
Visual Arts	3.73	6.00	4.14	4.67	4.14	4.67	6.00	4.00	5.83	6.67	7.41	7.17	6.67

Dropout and course-dropout students in all classes considered their lecturer to be more "boring" than did the persisters. On the "active . . . passive" scale the music lecturer(s) was assessed as being the most "active", whilst science and visual arts lecturers were, as far as their students were concerned, "passive". Similar results were obtained on the "organised . . . disorganised" scale, where course-dropouts in all subjects were more inclined than persisters to rate their lecturer as being "disorganised". Visual arts and social science course-dropouts in all subjects were more inclined than course-dropouts enrolled in the other subjects to consider their lecturer(s) "disorganised".

Extension persists in all subjects except one considered their lecturer to be more liberal than did the course-dropouts. Social science and visual arts lecturer(s) were rated by their students as being too "liberal". The possibility of a lecturer being too "liberal" and the lack of a goodness of fit between lecturer and students is indicated by the fact that course-dropouts in social science subjects considered their lecturer(s) to be more liberal than did the social science persisters.

### (C) Self/other discrepancy

It was suggested earlier that dropout, particularly that which occurs for course-related reasons, could also be understood as a function of the magnitude of the discrepancy between the participant's rating of "myself", my "lecturer" and "other adult education students". To test this notion, three discrepancy scores, between "myself/other adult education students", "myself/my lecturer" and "myself/myself as I would like to be", were calculated for each of the 1274 respondents. A discrepancy score on one scale represents the absolute difference between a respondent's ratings of the concept "myself" and the other concept concerned. Thus 45 scale - discrepancy scores were derived for each respondent. A concept discrepancy score represents the sum of scale discrepancies on one set of concepts (e.g. "myself/other adult education students").

Discrepancies correlate with dissatisfaction and subsequent dropping-out of a course. The question to be considered here is whether such a relationship would hold up across institutions with different procedures and within institutions where for different subjects the level of abstraction varies (Verner, 1959, p.37). If the discrepancy notion holds for all subjects in all institutions, the potentiality of PEES for the cross-cultural and inter-institutional study of dropout is enhanced.

If there were perfect congruency on one scale between a participant's rating of, say, "myself" and "my adult education lecturer", the congruency score on that scale would be 0. The greater the absolute difference in self/other ratings the greater the incongruence and dissatisfaction with that aspect of the adult education environment.

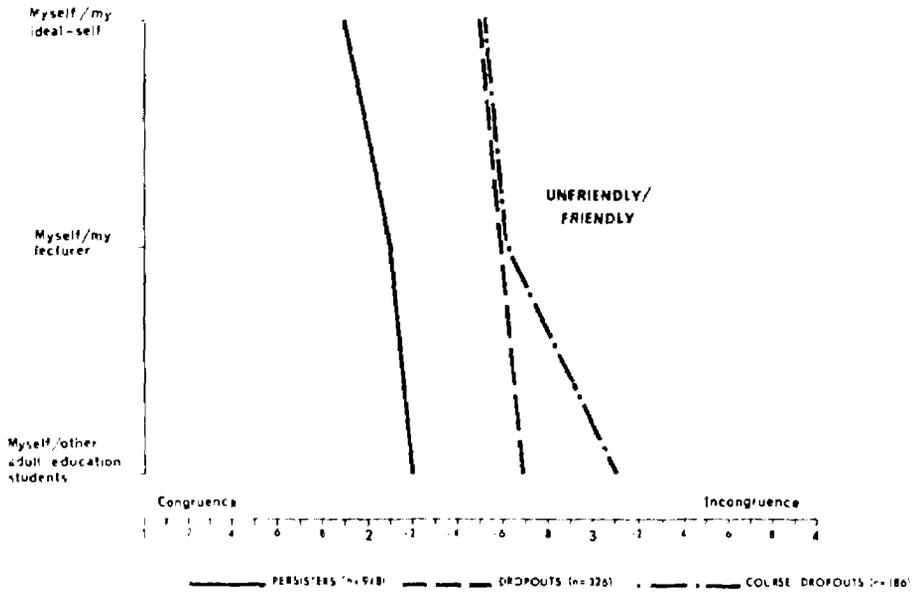
Discrepancy scores presented in Fig. 6 for the scale "unfriendly . . . friendly" and in Fig. 7 for the scale "conventional . . . eccentric" illustrate that dropouts and course-dropouts are more dissatisfied with aspects of their adult education environment than are persisters. On the "unfriendly . . . friendly" scale dropouts and course-dropouts are less satisfied with their own "friendliness" than persisters.

Space does not permit the presentation of the 4,860 discrepancy score means that were obtained but the data presented in Fig. 6, derived from the scale "unfriendly . . . friendly" is typical of what was found, particularly on "sociability" type scales. Whilst there is some variability in the relationship of self/other discrepancies to dropout/persistence behaviour, the trend is clearly in the hypothesized direction. Course-dropouts considered the "other students" to be significantly more unlike themselves in terms of their "friendliness" than did course and non-course dropouts considered together. Persisters had significantly smaller "self/other student" discrepancies than both groups of dropouts. Also noteworthy in Fig. 6 is the fact that all dropouts and course-dropouts did not differ in "self/lecturer" incongruence but were significantly more dissatisfied with their lecturer and the other students than were the persisters.

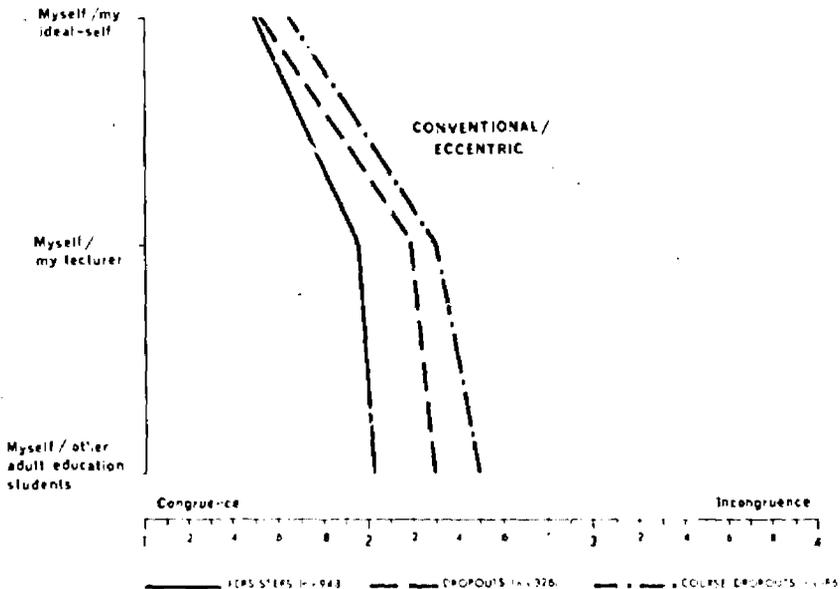
Also of note is the large and significant difference in the self/ideal-self ratings of persisters and dropouts on the scale "unfriendly . . . friendly". Fig. 6 shows that even respondents who consider their primary reason for dropout not related to the adult education course, to be less satisfied with their "friendliness" qualities than are the persisters.

Fig. 7 presents self/other discrepancy scores for persisters, dropouts and course-dropouts on the scale "conventional . . . eccentric." On this scale the degree of eccentricity manifested by the lecturer as

**Fig. 6 SELF/OTHER DISCREPANCY SCORES FOR DROPOUT, COURSE DROPOUT, AND PERSISTER PARTICIPANTS IN THREE ADULT EDUCATION INSTITUTIONS**



**Fig. 7 SELF/OTHER DISCREPANCY SCORES FOR DROPOUT, COURSE DROPOUT, AND PERSISTER PARTICIPANTS IN THREE ADULT EDUCATION INSTITUTIONS**



compared with that of the participant, is a factor associated with dropout/persistence behaviour. There was no difference on this scale in the amount of self/ideal-self discrepancy between dropouts and persisters, but the magnitude of "self/lecturer" and "self/other student" discrepancies was greater for dropouts and course-dropouts than for persisters.

Fig. 8 presents discrepancy score data on two other scales.

Persisters considered the "other students" to be more like themselves in terms of their "stimulating . . . boring" qualities than did either the dropouts or course-dropouts. Dropouts and course-dropouts were also inclined to rate the lecturer as being significantly more unlike "myself" than were the persisters. The "self/lecturer" congruency scores of course and non-course related dropouts on the "stimulating . . . boring" scale are almost identical. The differences in "self/ideal-self" ratings whilst slight could be taken to mean that satisfaction with one's conformity/non-conformity tendencies is not a factor in dropping-out of class whereas dissatisfaction with one's "stimulating . . . boring" qualities is a factor. The greater self/ideal-self satisfaction of dropouts as compared to persisters on the "stimulating . . . boring" scale probably occurred as a result of dropouts projecting part of the blame for dropping-out away from "myself" and on to the lecturer. But on both scales the main incongruencies, rather than being within the participant, are between the student and aspects of the educational environment.

**Fig. 8 SELF/OTHER DISCREPANCY SCORES FOR DROPOUT, COURSE DROPOUT, AND PERSISTER PARTICIPANTS IN THREE ADULT EDUCATION INSTITUTIONS**

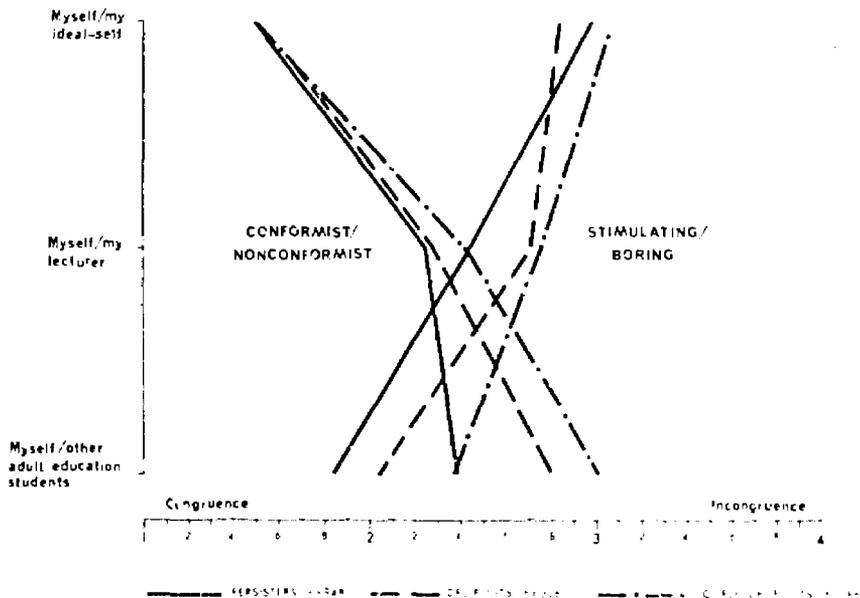


Table 2, which presents discrepancy scores for persisters, dropouts and course-dropouts summed across each concept pair and each scale, illustrates further the validity of PEES as a measure of satisfaction with the educational environment. An examination of the total concept-pair discrepancy scores at the foot of the table reveals that persisters were most satisfied with the "other students", the "lecturer" and their "ideal-self", whilst course-dropouts were the most dissatisfied. Course-dropouts rated themselves as being most unlike the "other students" on the "active . . . passive", "lively . . . dull", and "conservative . . . liberal" scales, two of which, as we note below, are factorially independent, and most unlike the "lecturer" on the "organised . . . disorganised" scale.\*

The consistently higher self/ideal self discrepancy ratings made by course-dropouts, as compared with persisters, on each PEES scale (except on "sociable . . . unsociable") indicate that course-dropouts accept that at least some of the blame for dropping-out lies within themselves. Whilst the differences in self/ideal-self discrepancy scores between persisters and course-dropouts are on some scales small and insignificant the fact that 14 out of 15 are in the hypothesized direction demonstrates the theoretical and operational validity of PEES.

This finding could also be taken as a reinforcement of the traditional notion that marked self/ideal-self discrepancies are evidence of emotional disturbance or maladjustment (Rogers, 1951) which is supported by research involving psychiatric patients (Chase, 1957) as well as in the original Rogers and Dymond (1954) reports which suggest that progress in therapy will result in a reduced discrepancy between the self and ideal-self concepts. However, the fact that even persisters did not achieve perfect self/ideal-self congruence supports the view expressed by the present writer (Boshier, 1971c) that the relationship between self/ideal-self discrepancy and maladjustment, rather than being linear, may be curvilinear. In other words, a certain degree of self/ideal-self discrepancy is to be expected, for as Allport (1955) notes, man discovers that "salvation comes only to him who ceaselessly bestirs himself in the pursuit of objectives that in the end are never fully attained". Unity bestowed upon the personality "is never the unity of fulfilment, or repose, or of reduced tension" (p.3).

To check the assertion made earlier that so-called non-course dropouts often give a non-course reason as a rationalisation for some other perhaps subtle course reason for dropout, the scale ratings of persisters, non-course dropouts and course-dropouts were compared. If non-course dropouts were actually enthusiastic students who would not have dropped out but for the intervention of the non-course reason (in checklist type studies these typically cluster into over-commitment at work reasons, change in family or domestic circumstances reasons, travel overseas/within the country and failures on the part of the participant — such as getting sick, overtired etc.) their ratings of the "other students" and the "lecturer" would be in accord with those made by persisters. But, as Table 2 shows, on every PEES scale non-course dropouts rate the "other students" and the "lecturer" more negatively than do the persisters.

This clearly illustrates that dropouts are defensive in telling the real truth about why they dropped out and are likely to highlight a non-course reason when course reasons are actually involved. This fact also shows the need to include all dropouts in any statistical analysis of dropout/persistence behaviour irrespective of how plausible their 'reason' may be. This finding also indicates that studies such as the fourteen reviewed by Verner and Davis (1964) which attempt to determine the reasons why participants discontinue attendance and which classify the reasons for dropout into categories such as "personal and home", "psychological" (whatever that is!), "location and job" and "school related" should be disregarded as the reasons for dropout given are, in many cases, probably false.

#### Factor structure

Ratings by all persisters, dropouts, and course-dropouts of "other adult education students," "my adult education lecturer" and "myself" were factor analysed separately for each concept. For rotation purposes a communalities estimate was formed from the sums of squares of rows of the principal factor matrix. The

\* Many adult education lecturers and not only those employed by the institutions studied, are known to re-hash, often with little success, lectures prepared for daytime consumption by internal usually full-time students.

Table 2. Self/other PEES discrepancy scores for persister, dropout, and course-dropout adult education participants.

	MYSELF/OTHER ADULT EDUCATION STUDENTS			MYSELF/MY LECTURER			MYSELF/MY IDEAL-SELF			TOTAL SCALL DISCREPANCIES		
	P	D	CD	P	D	CD	P	D	CD	P	D	CD
Stimulating	1.90	2.21	2.46	2.46	2.71	2.78	2.86	2.89	2.99	7.22	7.81	8.23
Sympathetic	1.74	2.14	2.50	1.66	2.14	2.41	1.44	1.46	1.61	4.84	5.74	6.52
Strong	1.88	2.10	2.45	2.08	2.27	2.39	2.30	2.55	2.56	6.26	6.92	7.40
Conventional	2.09	2.29	2.47	1.96	2.21	2.33	1.52	1.55	1.73	5.57	6.05	6.53
Rational	1.65	1.85	1.85	1.65	2.15	2.26	1.63	2.04	2.09	4.93	6.04	6.20
Unfriendly	1.65	2.11	2.53	1.60	2.00	2.21	1.44	1.75	1.59	4.69	5.85	6.33
Active	2.20	2.74	3.12	2.12	2.57	2.67	1.93	2.48	2.50	6.25	7.79	8.29
Optimistic	2.05	2.30	2.61	2.01	2.29	2.55	1.89	2.22	2.57	5.95	6.81	7.73
Scholarly	2.34	2.63	1.29	2.50	2.97	1.86	2.46	2.74	2.57	7.30	8.34	5.72
Warm	1.64	2.09	2.62	1.65	1.92	2.04	1.65	1.64	1.65	4.94	5.65	8.33
Organised	2.14	2.55	2.64	2.44	2.99	3.12	2.17	2.66	2.59	6.75	8.20	8.35
Lively	2.02	2.67	3.16	2.08	2.54	2.63	2.02	2.22	2.35	6.12	7.43	8.14
Conservative	2.69	2.93	3.23	2.50	2.69	2.66	1.79	2.07	1.91	6.98	7.64	7.80
Sociable	1.86	2.26	2.60	1.78	2.04	2.27	1.79	1.77	1.76	5.43	6.07	6.63
Conformity	2.33	2.67	2.89	2.24	2.29	2.44	1.66	1.58	1.69	6.23	6.54	7.02
<b>TOTAL CONCEPT DISCREPANCIES</b>	<b>30.18</b>	<b>35.54</b>	<b>38.42</b>	<b>30.73</b>	<b>35.78</b>	<b>36.62</b>	<b>28.55</b>	<b>36.02</b>	<b>32.16</b>	<b>89.46</b>	<b>94.55</b>	<b>109.22</b>

sum was inserted in the corresponding diagonal of the original correlation matrix. The final communalities estimate was obtained by repeating this process 10 times. The matrix was rotated to achieve orthogonal and oblique structure (varimax/promax method) according to the criteria of Hendrickson and White (1964). Only factors with eigenvalues greater than unity were rotated. Individual concept ratings were factor analysed separately to avoid scale/concept interaction and rotated to achieve oblique structure.

Table 3 presents scales and factor loadings. The three factors derived from the ratings were basically the same for each concept, and in each analysis accounted for over 80 per cent of the variance. Whilst there are obvious scale/concept interactions ("lively/dull" loaded .43 when "myself" was rated, .41 when "other . . . students" was rated, but only .22 when "my . . . lecturer" was rated) the factors identified display remarkable cross-concept stability.

The first factor "personal warmth" (which came out third when the ratings of "my . . . lecturer" were factor analysed and rotated) is a measure of sociability and not specifically related to the adult education situation. The third factor, named "personal effectiveness", contains scales which traditionally load highly on "activity" and "potency" factors, and is specifically concerned with the success of "myself"/"lecturer"/"other students" in the adult education situation. Composed of seven scales of compatible meaning, this factor shows that the "non-scholarly", "disorganised" lecturer etc is also considered to be "passive", "irrational", "weak" and "boring". In both meaning and empirical terms "personal warmth" and "personal effectiveness" are related.

Table 3. Factor loadings of PEES on three concepts after oblique rotation

SCALES	CONCEPTS			FACTOR NAME
	MYSELF	MY ADULT EDUCATION LECTURER	OTHER ADULT EDUCATION STUDENTS	
sympathetic/unsympathetic	.57	.58	.56	I Personal warmth
unfriendly/friendly	.85	.85	.86	
warm/cold	.86	.87	.85	
lively/dull	.43	*	.41	
sociable/unsociable	.75	.77	.87	
conventional/eccentric	.80	.72	.67	II Conventionality
conservative/liberal	.69	.61	.54	
conformist/non-conformist	.80	.81	.80	
stimulating/boring	.59	.80	.52	III Personal effectiveness (activity/potency)
strong/weak	.75	.84	.76	
rational/irrational	.46	.55	.53	
active/passive	.52	.61	.55	
scholarly/non-scholarly	.54	.60	.75	
organised/disorganised	.59	.71	.58	
lively/dull	.40	.64	.48	

\* loaded .22

Factor II, "conventionality" is a measure of conservatism. High factor loadings and low intercorrelations between this and the other two factors (on all concepts) indicates that it holds potential as an uncontaminated measure of conservatism.

## DISCUSSION

It is conceded that the relationships between self/other discrepancies and dropout are probably more complex than is supposed. "Self/other student" and "self/lecturer" similarities are no doubt related to the probability of dropping-out but logic would suggest that large discrepancies should not *inevitably* result in dropout behaviour. The lecturer in social or physical science, for instance, might do well to stress that he has more experience and expertise than the audience. A lay speaker, in stressing that he has no more expertise than the audience, may find that his class quickly evaporates. However by changing scale and concepts one should be able to explore the psychological areas where difference is desired and not desired. It is likely that other personality variables – conservatism, rigidity, tolerance of ambiguity, breadth of perspective, and so on – mediate the self/other and therefore the dropout relationship. Nevertheless, attitude change literature such as that reviewed by Simons *et al.* (1970) would indicate that a lecturer can cement perceived similarities by explicitly asserting that he shares interests, feelings and beliefs with his students, or by emphasizing similarity in work experiences, social class and so on.

Research should also distinguish between psychologically *relevant* and *irrelevant* discrepancies. Thus the degree of "liberalism/conservatism" manifested by the lecturer, may, from the participant student's point of view, be not as important as the degree to which the lecturer is seen as being "organised/disorganised" or "scholarly/non-scholarly".

In spite of such difficulties, the findings presented hold that low discrepancies (or assumed self/other similarities) are associated with persistence behaviour whilst dissimilarity (or high discrepancy) is associated with dropout. Low discrepancies are generally more significant determinants of attraction than equivalent dissimilarities. This suggests there is an optimum fit between a participant and aspects of his institutional environment. Participant development and satisfaction could therefore be fostered by manipulating institutional characteristics.

Future research with PEES can follow several lines. The present study indicates that *intra-institutional* analysis can identify the parts of the institution which are considered by participants to be sources of satisfaction/dissatisfaction. By substituting concepts and scales PEES could easily be used in studies of dropout from or failure in universities, high schools or teachers' colleges. The immediate task will be to administer PEES shortly after courses begin (allowing sufficient time for impressions to be formed) and then, on the basis of scale ratings, predict whether a student will drop-out or persist. *Inter-institutional* studies will enable comparisons to be made between the success/failure of the component parts of different institutions to satisfy student expectations. *Longitudinal* studies could measure the degree of congruence/incongruence at the beginning and end of a course. Evaluation of courses should be possible.

The relating of PEES ratings to other personality variables may reveal that some individuals are more tolerant of self/other discrepancy than others. Some participants may seek balance, congruence, or homeostasis, whilst others are pursuing novel stimulation, diversity, or homeostasis, as the writer has indicated elsewhere (Boshier, 1971b).

To conclude, it can be noted that there has been research on college dropout behaviour for 50 years or more. According to Summerskill (1962) dropout rates have not altered significantly in this time. Adult education dropout research is of more recent origin but has been similarly bedevilled by a paucity of theoretical models. The model and measure described herein rests on the notion that dropping-out of an adult education class occurs as a function of an interaction between a student and his environment. It is suggested that studies wherein discrete 'social characteristics' such as age, sex, socio-economic status and so on are related to dropping-out or not dropping-out of a class, are limited because they largely ignore institutional variables. PEES can be adapted for use in most adult education institutions in most countries of the world, and therefore holds potential for adult education dropout prediction and diagnosis studies. The salient goal that can be achieved with PEES is the identification of variables, the manipulation of which can allay dropout rates.

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APPENDIX 1

Means S.D.'s, and six week test re-test correlation coefficients  
for 41 test PEE'S ratings of two concepts

"MYSELF"						
SCALES	MEAN A	SD A	MEAN B	SD B	CORRN	ME
stimulating/boring	4.667	2.357	4.611	1.799	0.768*	
disciplined/undisciplined	5.556	2.713	5.556	2.813	0.790*	
theoretical/practical	6.111	2.865	6.444	2.891	0.658*	
sympathetic/indifferent	4.000	1.856	3.389	1.380	0.607*	
cautious/uninhibited	5.333	2.186	5.444	2.339	0.667*	
guiding/non-directing	4.944	2.838	5.222	2.274	0.784*	
sophisticated/unsophisticated	6.111	2.183	5.556	1.892	0.779*	
examining/accepting	4.389	2.947	3.444	2.499	0.844*	
conventional/eccentric	6.000	2.517	6.444	2.166	0.815*	
rational/irrational	5.167	2.630	4.111	1.912	0.704*	
flexible/rigid	4.111	2.307	4.056	1.715	0.434	
uninteresting/exciting	7.333	2.055	7.000	2.000	0.351	
sincere/insincere	3.222	2.149	3.500	2.167	0.692*	
personal/impersonal	5.000	2.494	4.722	2.534	0.167	
non-intellectual/intellectual	7.389	1.919	7.611	2.031	0.253	
tense/relaxed	6.111	2.514	6.167	2.872	0.782*	
unfriendly/friendly	8.111	1.912	7.667	2.625	0.860*	
conforming/rebellious	8.000	1.944	7.833	2.363	0.544*	
professional/non-professional	6.000	2.867	5.278	2.422	0.816*	
formal/informal	8.389	2.085	7.611	1.830	0.185	
sociable/unsociable	5.444	2.671	5.056	2.368	0.953*	
optimistic/pessimistic	4.222	2.123	3.722	1.366	0.672*	
introspective/action oriented	5.111	2.704	5.667	2.582	0.822*	
authoritarian/democratic	8.611	2.215	8.444	2.088	0.843*	
inhibited/uninhibited	6.111	2.767	6.222	2.678	0.611*	
conservative/liberal	8.667	2.055	7.611	2.628	0.696*	
scholarly/non-scholarly	5.167	1.772	5.167	1.708	0.505*	
uncertain/over-confident	6.500	1.537	6.722	1.592	0.625*	
snobbish/friendly	7.944	2.368	8.222	1.931	0.720*	
introverted/extroverted	5.778	2.070	6.778	2.551	0.590*	
tolerant/intolerant	3.722	2.490	3.944	1.738	0.786*	
good/bad	4.500	1.833	5.667	1.563	0.698*	
modern/traditional	3.333	1.291	3.167	1.424	0.755*	
creative/uncreative	3.278	1.850	3.722	1.909	0.462*	
warm/cold	4.111	2.258	4.333	2.427	0.865*	
idealistic/materialistic	5.333	2.848	4.056	2.368	0.417	
open minded/close minded	2.889	1.286	3.278	2.305	0.779*	
conformist/non-conformist	7.111	2.514	7.667	2.108	0.730*	
permissive/restraining	4.389	2.313	4.056	2.198	0.422	
organised/disorganised	4.722	2.642	4.278	2.765	0.771*	
lively/dull	4.944	2.656	4.500	2.386	0.872*	

\* significant p < .05 (17 degrees of freedom)

APPENDIX 1

Means S.D's, and six week test re-test correlation co-efficients  
for 41 test PEF'S ratings of two concepts

CONCEPTS	"MYSELF"					"OTHER ADULT EDUCATION STUDENTS"				
	MEAN A	SD A	MEAN B	SD B	CORRN	MEAN A	SD A	MEAN B	SD B	CORRN
Disciplined	4.667	2.357	4.611	1.799	0.768*	3.944	2.592	4.000	2.108	0.722*
Intellectual	5.556	2.713	5.556	2.813	0.790*	4.500	2.522	4.778	2.274	0.765*
Independent	6.111	2.865	6.444	2.891	0.658*	5.444	1.832	5.667	1.826	0.493*
Organized	4.000	1.856	3.389	1.380	0.607*	5.444	2.362	4.944	2.391	0.762*
Self-motivated	5.333	2.186	5.444	2.339	0.667*	6.000	2.186	5.833	1.893	0.712*
Self-reliant	4.944	2.838	5.222	2.274	0.754*	6.222	2.417	5.667	1.856	0.574*
Sophisticated	6.111	2.183	5.556	1.892	0.779*	5.333	2.261	5.222	2.699	0.816*
Successful	4.389	2.947	3.444	2.499	0.844*	5.556	2.891	4.389	2.628	0.637*
Systematic	6.000	2.517	6.444	2.166	0.815*	5.444	2.315	5.167	2.167	0.672*
Thorough	5.167	2.630	4.111	1.912	0.704*	3.667	1.732	3.944	1.615	0.788*
Well-organized	4.111	2.307	4.056	1.715	0.434	4.778	2.250	4.111	1.912	0.329
Well-planned	7.333	2.055	7.500	2.000	0.351	7.611	2.031	7.556	1.739	0.832*
Well-structured	3.222	2.149	3.500	2.167	0.692*	2.889	1.969	3.556	1.383	0.390
Well-organized	5.000	2.494	4.722	2.534	0.167	5.444	2.565	6.056	2.272	0.615*
Well-organized	7.389	1.919	7.611	2.031	0.253	8.000	2.160	8.000	1.667	0.818*
Well-organized	6.111	2.514	6.167	2.872	0.782*	8.167	1.863	8.389	1.380	0.428
Well-organized	8.111	1.912	7.667	2.625	0.860*	7.667	2.000	8.389	1.533	0.659*
Well-organized	8.000	1.944	7.833	2.363	0.544*	4.889	2.378	5.722	1.789	0.724*
Well-organized	6.000	2.867	5.278	2.422	0.816*	5.167	2.062	5.222	1.931	0.814*
Well-organized	8.389	2.085	7.611	1.830	0.185	7.444	2.522	7.000	2.211	0.817*
Well-organized	5.444	2.671	5.056	2.368	0.953*	4.667	2.082	4.167	1.708	0.719*
Well-organized	4.222	2.123	3.722	1.366	0.672*	4.500	1.833	4.056	1.268	0.585*
Well-organized	5.722	2.704	5.667	2.582	0.822*	6.278	2.256	6.556	1.978	0.177
Well-organized	8.611	2.215	8.444	2.088	0.843*	7.889	2.105	8.500	1.740	0.379
Well-organized	6.111	2.767	6.222	2.678	0.611*	7.111	2.283	6.889	2.131	0.459*
Well-organized	8.667	2.055	7.611	2.628	0.696*	7.500	2.651	6.889	2.131	0.597*
Well-organized	5.167	1.772	5.167	1.708	0.505*	5.055	2.068	4.889	1.760	0.795*
Well-organized	6.500	1.537	6.722	1.592	0.625*	6.556	1.739	6.111	1.523	0.165
Well-organized	7.944	2.368	8.222	1.931	0.720*	8.111	2.183	8.333	1.599	0.865*
Well-organized	5.778	2.070	6.778	2.551	0.590*	7.833	1.833	7.556	1.423	0.909*
Well-organized	3.722	2.490	3.944	1.738	0.780*	3.778	1.548	3.556	1.571	0.782*
Well-organized	4.500	1.833	3.667	1.563	0.698*	3.889	1.792	3.500	1.572	0.158*
Well-organized	3.333	1.291	3.167	1.424	0.755*	4.556	2.006	4.556	1.978	0.790*
Well-organized	3.278	1.850	3.722	1.909	0.462*	4.389	1.799	5.278	2.280	0.624*
Well-organized	4.111	2.258	4.333	2.427	0.865*	4.444	1.832	4.444	1.606	0.556*
Well-organized	5.333	2.848	4.056	2.368	0.417	5.389	1.919	5.389	1.533	0.402
Well-organized	2.889	1.286	3.278	2.305	0.779*	3.722	1.909	3.722	1.726	0.415
Well-organized	7.111	2.514	7.667	2.108	0.730*	6.167	2.651	5.889	2.258	0.569*
Well-organized	4.389	2.313	4.056	2.198	0.422	5.222	2.149	5.444	2.061	0.605*
Well-organized	4.722	2.642	4.278	2.765	0.771*	4.444	1.571	4.778	2.274	0.852*
Well-organized	4.944	2.656	4.500	2.386	0.872*	4.611	2.164	4.778	2.274	0.852*

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